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 3/27/07IN THE CLAIMS

Please amend the claims as follows:

Claims 1-7 (Cancelled)

Claim 8 (Currently Amended): An isolated polynucleotide which ~~hybridizes to~~  
~~the complement of SEQ ID NO: 1 under stringent conditions and which~~ encodes a  
polypeptide comprising SEQ ID NO: 2 that enhances temperature tolerance of  
*Acetobacter* or *Gluconacetobacter*;

~~wherein stringent conditions comprise washing in 1 x SSC and 0.1% SDS at~~  
60°C; and

wherein growth and/or acetic acid fermentation of an *Acetobacter* or  
*Gluconacetobacter* transformed with said polynucleotide is enhanced at a temperature  
above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 9 (Currently Amended): The isolated polynucleotide of Claim 8, which  
encodes ~~the~~ a polypeptide consisting of SEQ ID NO: 2.

Claim 10 (Previously Presented): The isolated polynucleotide of Claim 8, which  
comprises SEQ ID NO: 1.

Claim 11 (Previously Presented): A vector comprising the polynucleotide of  
Claim 8.

Claim 12 (Currently Amended): An isolated host cell transformed with the vector of Claim 11.

Claim 13 (Previously Presented): The host cell of Claim 12, which is *Acetobacter* that exhibits enhanced growth and/or fermentation of acetic acid at a temperature above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 14 (Previously Presented): The host cell of Claim 12, which is *Gluconacetobacter* that exhibits enhanced growth and/or fermentation of acetic acid at a temperature above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 15 (Currently Amended): A method for producing acetic acid comprising culturing the host cell of Claim 12, which is *Acetobacter* or *Gluconacetobacter* that exhibits enhanced growth and/or fermentation of acetic acid at a temperature above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 16 (Currently Amended): An isolated polypeptide encoded by the polynucleotide of Claim [[9]] 8.

Claim 17 (Currently Amended): The isolated polypeptide of Claim 16, which ~~comprises~~ consists of SEQ ID NO: 2.

Claim 18 (Currently Amended): The isolated polynucleotide ~~comprising~~  
consisting of nucleotides 73 to 1251 of SEQ ID NO: 1.

Claim 19 (Previously Presented): The recombinant plasmid pUCGCS deposited  
as FERM BP-8217.

Claim 20 (New): An isolated polynucleotide which encodes a polypeptide  
comprising SEQ ID NO: 2 or a fragment of SEQ ID NO: 2 that enhances temperature  
tolerance when expressed in *Acetobacter* or *Gluconacetobacter*;  
wherein growth and/or acetic acid fermentation of an *Acetobacter* or  
*Gluconacetobacter* transformed with said polynucleotide is enhanced at a temperature  
above the optimal fermentation temperature for the corresponding untransformed strain.

Claim 21 (New): A vector comprising the polynucleotide of Claim 20.

Claim 22 (New): An isolated host cell transformed with the vector of Claim 21.

Claim 23 (New): A method for producing acetic acid comprising culturing the  
host cell of Claim 22, which is *Acetobacter* or *Gluconacetobacter* that exhibits enhanced  
growth and/or fermentation of acetic acid at a temperature above the optimal  
fermentation temperature for the corresponding untransformed strain.

**Claim 24 (New):** An isolated polypeptide encoded by the polynucleotide of  
**Claim 20.**